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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,063	08/18/2003	Wing-Kit Choi	UCF-372	4155
7590 Brians S. Steinberger 101 Brevard Avenue Cocoa, FL 32922				
03/04/2010				
EXAMINER				
NGUYEN, DUNG T				
ART UNIT		PAPER NUMBER		
2871				
MAIL DATE		DELIVERY MODE		
03/04/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/643,063

**Applicant(s)**

CHOI ET AL.

**Examiner**

Dung T. Nguyen

**Art Unit**

2871

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,5,7,8,10-16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,7,8,10-16 and 18-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/808)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Applicant's amendment dated 12/08/2009 has been received and entered. By the amendment, claims 1-3, 5, 7-8, 10-16 and 18-20 are pending in the application.

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 13-16, 18-20 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 13 and 19, it is confusing and unclear what is meant by "discontinuous ...electrode". It should be noted that "discontinuous electrode" is a well-known term denoted for a discrete electrode (i.e., electrodes having parts that are not physically connected to each other. For the purposes of examination, as best understood, it is assumed that Applicant tends to recite the "discontinuous electrode" as of the electrode having two or more adjacent finger like extensions with gaps therebetween and open one-end of the electrode.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5, 7-8, 11-15 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuyama et al., US 6,469,765, in view of Tai et al., US 2001/0046027A1.

Regarding the above claims, Matsuyama et al. disclose a liquid crystal display (LCD) device (figures 1, 3-4 and 9-10) comprising:

- . a first substrate (902) with a continuous first common electrode (908)
- . a second substrate (802) with both a discontinuous pixel electrode (300) and a continuous second common electrode (400/410) with a gap therebetween
- . a liquid crystal layer (1000)
- . means for generating an electric field (first electric field) between the first common electrode layer and the pixel electrode layer, an electric field (second electric field) between the second common electrode layer and the pixel electrode layer (see figure 4), wherein the first electric field can be different from the second electric field (see col. 13, ln 61).

Matsuyama et al., however, neither disclose a discontinuous second common electrode located above the continuous pixel electrode nor disclose a display with a fast response to high input data rates and allows for wide viewing angles for viewers.

Tai et al. do disclose an in-plane switching type LCD device in which a discontinuous common electrode (303/409) formed over the continuous pixel electrode (302/406)(see figures 3 and 4F). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to employ the Matsuyama et al. second common electrode having a

discontinuous-shaped electrode and located over the pixel electrode as shown by Tai et al. in order to increase the effective transmission of light and has no effects of strong electric field at the corner as well as to eliminate Residual electric charges in an LCD display (see [0031]).

In addition, one of ordinary skill in the art would be able to achieve the same result for the Matsuyama et al. display because of the same display structure as well as the method of using such display. Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ the similar display as well as a method of using as shown by Matsuyama et al. display in order to obtain a fast response display.

5. Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuyama et al., US Patent No. 6,469,765, in view of Tai et al., US 2001/0046027A1, further in view of Nakanishi et al, US 6,819,384.

Regarding claims 10 and 16, the modification to Matsuyama et al. do not appear to explicitly specify a dielectric layer/resistive layer adjacent a common electrode layer. Nakanishi teaches and discloses a liquid crystal display panel capable of reducing persistence degree and a development method (see Title). In particular, Nakanishi's figure 32 illustrates a dielectric layer (13) adjacent a flat electrode (12) to reinforce the lateral component of the electric field in the liquid crystal so that the liquid crystal can be driven with a lower applied voltage (Column 1, Lines 59-66). Nakanishi is evidence that ordinary workers in the field of liquid crystals would have found the reason, suggestion and motivation to include a dielectric layer adjacent a common electrode layer to reinforce the lateral component of the electric field in the liquid crystal so that the liquid crystal can be driven with a lower applied voltage (Id). Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the

invention was made to modify Matsuyama in view of Nakanishi to reinforce the lateral component of the electric field in the liquid crystal so that the liquid crystal can be driven with a lower applied voltage (Id.).

***Response to Arguments***

6. Applicant's arguments filed 12/08/2009 have been fully considered but they are not persuasive.

. Applicant's arguments are as follow:

- a. Unlike Matsuyama, the Applicant's pixel electrode is a continuous electrode.
- b. The modification to Matsuyama would render unsatisfactory since there is no suggestion in Matsuyama nor Tai to replace the discontinuous pixel electrode with the Tai's continuous pixel electrode; and such changing position changes to operation of the LCD.
- c. Tai does not teach using two common electrodes.
- d. a cross-field effect in the thin film transistor has been recited to clarify the claimed invention.

. The Examiner's responses are as follow:

- a. The Examiner agrees that Matsuyama et al. do not disclose a "continuous" pixel electrode; however, Tai et al. do disclose such "continuous" pixel electrode. The modification to Matsuyama et al., as stated above, would result the same continuous pixel electrode as claimed as well.
- b. The Examiner respectfully disagrees with Applicant's viewpoint. In particular, in response to Applicant's argument that there is no suggestion to combine the references, the

Examiner recognizes flat references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. In re Nomiya, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. In re McLaughlin, 170 USPQ 209 (CCPA 1971) references are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. In re Bozek, 163 USPQ 545 (CCPA 1969). In this case, both Matsuyama et al. and Tai et al. disclose a same parallel field (e.g., IPS and fringe field); so as, the replacement and changing the position of the pixel electrode and the common electrode would not be changed the operating of an LCD device. In addition, it would have been obvious to one of ordinary skill in the art at the time the invention was made to changing the position of a pixel electrode and a common electrode in a parallel field display (i.e. display with both electrodes over the same substrate), since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

c. The Examiner agrees that Tai et al. do not disclose two common electrodes; however, the modification to Matsuyama et al. would not be replace the Tai et al. display to the Matsuyama et al.. As a result, the modification to Matsuyama et al. do have both common electrodes as claimed as well.

d. Since the modification to the Matsuyama et al. do result a display structure as claimed; therefore, claimed functions (e.g., crossed-field effect) are presumed to be inherent (see MPEP

21 12.01). In other words, the claimed invention of claims 1, 13 and 19 met and a prima facie of anticipation has been established.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung T. Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN  
03/01/2010

/Dung T Nguyen/  
Primary Examiner  
Art Unit 2871